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### Dear Friend:

We don't always realize it, but the great events of science are not only the monographs, the apparatus, or the demonstrations. Sometimes they can be something more ephemeral, and yet, strangely enough, more exciting, stimulating, and revealing. They can be the great public lectures of the day.

Imagine being present when Huxley lectured on Darwinism, or when Faraday gave his famous series on the chemical history of a candle to the students of the Royal Institute, or when Osler addressed the student body of Johns Hopkins, or when Lorentz spoke at the California Institute of Technology... The sciences involved are many, but all these great events -- which were later captured in book form -- seem to me to have one common factor: a great mind has been called upon to give his own understanding, in simple terms, of a highly important topic in science.

One series of lectures which I personally regard as among the greatest are the famous lectures on relativity that Charles Proteus Steinmetz delivered to the Pittsfield Section of the AIEE in 1922. And I am very pleased to inform you that they are again available to you after being out of print for many years:

FOUR LECTURES ON RELATIVITY AND SPACE by Charles P. Steinmetz.

33 figures, 7 plates. x + 142pp. 5 3/8 x 8 1/2.

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(Over, please)

I don't believe that it is necessary for me to remind you about Steinmetz, beyond saying that he was one of the great mathematical minds of the century, possibly of all time. We owe most of the mathematical concepts at the basis of practical electricity to his genius.

At the time this series of lectures was delivered, the common saying, half joke and half serious, was that only seven men understood Einstein's relativity. (Sometimes Einstein was one of the seven, sometimes he wasn't!) And, of course, Steinmetz was one of the seven. Begged by his colleagues and friends, urged by the surrounding intellectual community, Steinmetz finally consented to deliver a series of non-technical lectures.

The lectures were outstandingly successful, and Steinmetz demonstrated himself not only an original thinker of great power but an expositor not far from the top. Even today, some forty-five years later, his clear and precise discussion of the geometry of space (in the Fourth Lecture) remains unique.

I sincerely believe that you will find this a very profitable book, no matter what your level of scientific training is. A layman (the first lecture, indeed, was directed to the members of the Schenectady Unitarian Church, before being delivered to the AIEE) will find this the most readable and yet the most penetrating and informative elementary account of relativity he is likely to meet. As for physicists and mathematicians, several of the nation's foremost scientists have told me that they find verbal expositions of mathematical topics particularly valuable for clarifying their thought and enabling them to reformulate their ideas in words.

Let me urge you to send for your copy of this book right away. If you do not share my (and our referees') high opinion of it, you lose nothing. I'll be glad to refund your money. Don't even bother to return the book. Simply drop me a note and I'll send your money back.

I'm going to quote the first couple of sentences from Steinmetz's preface. You will find it rewarding to continue:

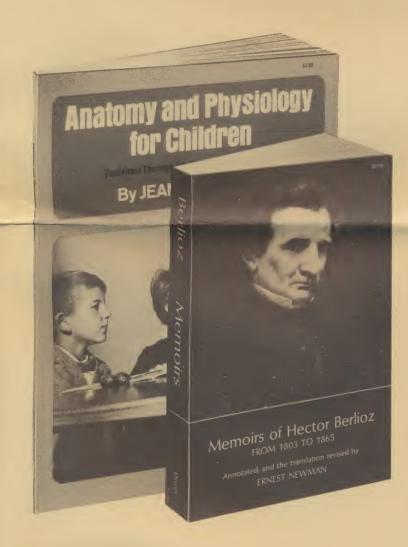
"The theory of relativity developed by Einstein and his collaborators is the greatest scientific achievement of our age. The layman is therefore fully justified in wishing and asking to know what it is about, and in his desire to get at least a glimpse of the new and broader conception of the universe and its laws...."

Yours very truly,

Hayward Cirker, President Dover Publications, Inc.

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EXPLAINED THROUGH THE DISSECTION OF A CHICKEN

BY JEAN M. ASHTON, PH.D.

\$1.50

This thoroughly delightful book teaches children human anatomy and physiology through analogy with the chicken. Step-by-step instructions in text and clearly-labeled diagrams show children how to dissect a chicken, using only simple tools found around the house. The chicken was chosen as an ideal subject because it is inexpensive, readily accessible, and familiar to children (and therefore not frightening). By performing or witnessing the dissection and following the text, boys and girls will find out about the structure and function of the muscle layer, foot, heart, liver, gall bladder, windpipe, lungs, spleen, intestine, gizzard, pancreas, mesentery, caeca, cloaca, stomach, crop, kidneys, and the skeleton. Then follow 10 diagrams of the human body, with a text that points out the similarities and parallels between the anatomy and physiology of the human body and that of the chicken. The text is written so simply that any child of ten should be able to complete the dissection by himself. Parents and teachers may have to assist those who are under ten. This excellent method has been used successfully with youngsters for years. Parents especially will find it an ideal way to give their youngsters a head start on school biology programs. 38 diagrams and sketches.  $xi + 61pp. 8\% \times 11\frac{1}{4}$ .

### MEMOIRS OF HECTOR BERLIOZ

ANNOTATED AND REVISED BY ERNEST NEWMAN \$2.50

Among the great composers, Hector Berlioz (1803-1869) possessed uniquely the ability to express himself in words as well as music. This definitive edition of his Memoirs, translated by Rachel and Eleanor Holmes, annotated and revised by Ernest Newman, has become a classic, not only of music, but of literature as well. In a volume which remains one of the most engrossing autobiographies ever written, Berlioz describes his own life, his introduction to music and poetry, the influences on his work, the break with his mother over his career, his struggle for acceptance by a musical community that largely ignored his Romeo and Juliet, Damnation of Faust, Requiem, and Symphonie fantastique-all standards in today's repertoire. The book also deals with the musical life of Europe-its conventions, reactions to new trends-in the 50 years of Berlioz's active career. And running through it all is Berlioz as critic, offering unbridled opinions on Gluck, Spontini, Beethoven, Rossini, Mendelssohn, Weber; on German critics, Shakespeare, audiences, Italian theatre conventions, and dozens of other musical and non-musical topics. Unaltered, unabridged reprint of 1932 revised edition. 11 plates. 11 musical excerpts. Index. xxiv + 547pp. of text. 5\% x 8\1/2. Paperbound \$2.50



Blazing Star (Mentzelia lindleyi).

Matilija poppy (Romneya coulteri).

# THE WILD FLOWERS OF CALIFORNIA

BY MARY ELIZABETH PARSONS

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Don't be misled by the title; this popular account of 666 different wild flowers is a book for flower lovers everywhere. The species it describes are not limited to California; many are found as far north as Canada, while others extend into the Southwest. In addition, some, like the California Poppy, Shooting Star, Pipe Vine, Four O'Clock, Showy Bleeding Heart, etc., have been cultivated and will grow as garden or house plants in any area of the country. The book is conveniently arranged by color of blossom and season, so if some unknown pink flower catches your fancy in the spring, you can easily locate it in the book and find out a great deal about it. There are full botanical descriptions of each flower, along with information on the time of blooming, typical locales, uses, alternate names, similarities to other species, etc. Accompanying the text are over 250 detailed full-page line engravings of the more common or interesting species—engravings that may be colored in as a permanent record of a season's flower hunting. Other aids include a finding key based on botanical principles, a glossary of botanical and other technical terms, indices to Latin and common names, and a new table of changes in nomenclature, prepared specially for this edition. 251 plates. cvi + 425pp. 5\% x 81/2. Paperbound \$2.25

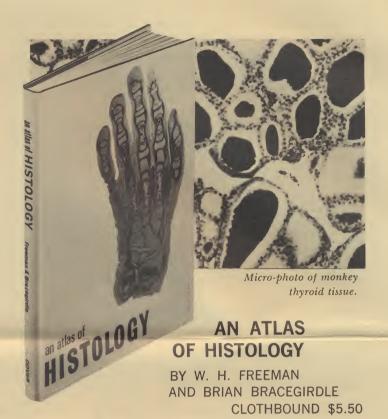
# RELIQUES OF ANCIENT ENGLISH POETRY

BY THOMAS PERCY

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In the history of English literature few other collections of poetry have been as influential as Bishop Percy's Reliques. It was a major document in the romanticism of the late 18th and early 19th-century (influencing Wordsworth, Coleridge, Scott, etc.) and it was also of enormous importance in the history of English folklore, remaining until modern times the basic work for the study of early popular literature. This set reprints the definitive edition of Percy's classic, prepared in 1886 by renowned British scholar Henry B. Wheatley, and which has been selling for \$50 on up on the rare book market. It contains the complete text as established by Percy-180 pieces, including "Chevy Chase," "Sir Patrick Spence," "Edward, Edward," many Robin Hood ballads, and many other of the finest traditional ballads; poems by Marlowe, Shakespeare, Lovelace, Suckling, Ben Jonson, Dryden, etc.; supplementary essays and historical and interpretative footnotes by Percy; and reproduced sections from the original "Percy Manuscript," showing where Percy departed from the original. Introductory material, notes, and glossary by Henry B. Wheatley. Indexes. Total of cxii + 1,280pp.

Three-volume set, Paperbound \$6.75



This new (1966) publication is a companion volume to the authors' highly acclaimed *Atlas of Embryology* (Dover, \$3.50). It is uniquely helpful to students in the laboratory interpretation of histological preparations. The authors' approach is basically illustrative, but they have also included enough text to outline the principles of the subject. Beginning with a general introduction to cell and tissue structure, the book continues with illustrations of epithelial, connective, muscular, and nervous tissue. The next part is devoted to organs, grouped into digestive (human molar tooth, rabbit taste buds, cat duodenum, etc.), respiratory (new-born rat lung, human trachea, etc.), neurosensory (guinea pig eye, human retina, human cochlea, etc.), endocrine, and circulatory (human blood cells, cat vein wall, etc.) systems, skin, spinal cord, and brain. Finally, there are brief sections on organ relationships and the five stages of mitosis. Each section is profusely illustrated with photomicrographs taken under the most careful possible conditions. Fully labeled diagrams accompany each of these 95 photographs and dozens of supplementary diagrams and charts are scattered throughout the book. 6 color photographs. Index. xii + 140pp. 7½ x 10. Clothbound \$5.50

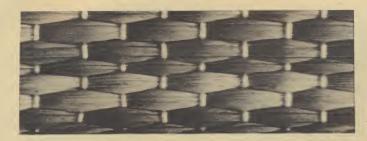
### MELVILLE IN THE SOUTH SEAS

BY CHARLES ROBERTS ANDERSON

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The years from 1841 to 1845 are the most significant in Herman Melville's life, for they furnished the experiences that make up the great body of his published work: Typee, Omoo, Mardi, White Jacket, and Moby Dick. All of these involve, in varying degrees, Melville's 1841 voyage on a whaler, his stay in the South Seas, or his return trip in 1845 aboard the "United States." This pioneering work in Melville scholarship was the first book to examine the South Seas journey and remains one of the major keys that literature students and Melville readers have to understanding the great American writer's life and works. Turning to untapped records of the U. S. Navy and to manuscripts and documents scattered between Paris and Sydney, Australia, Professor Anderson fills us in on actual facts and backgrounds-what the inhabitants of the Marquesas were like in 1842, what sort of crew manned the "United States," what life was like aboard a mid-19th-century whaler, etc.-and analyzes Melville's literary use of those facts. Chapters on facts and symbols in Moby-Dick, truth and fiction in Typee, and White Jacket as romance and as propaganda complement biographical chapters that trace Melville's experiences in the South Seas day by day. Slightly altered (1966) edition. Notes. Index. 514pp. 53/8 x 81/2.

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Top: Straw matting, magnified 4 times.

Bottom: Plastic bubble

# TEXTURES: A Photographic Album for Artists and Designers

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Have you ever stopped to notice the patterns in the bark of a tree, cloud formations, a piece of woolen cloth, or soap bubbles? The camera, used by a skilled professional photographer, can capture these frequently obscured patterns in photographs of such depth and texture that you want to reach out and touch them. In this unusual art book, photographer Phil Brodatz skillfully visualizes the various patterns woven into natural and man-made objects in a collection of 112 striking, often startling, black and white textured photographs, shown one to a large-sized page (73/4 x 101/2 inches). Captions indicate the subject, lighting conditions, and the amount of enlargement or reduction. You'll find a host of delightful design effects in ceramic coated brick, pressed cork, lizard skin, wood grain, beach pebbles, sand, dried hops flowers, swinging lights, and many other objects. Widely used in technical manuals, package designs, product brochures, etc., these photos make a handsome browsing album for photographers, art lovers, and general readers. 112 plates. Index. xiv + 114pp. 73/4 x 101/2. Paperbound \$2.25

# VIOLIN FINGERING: Its Theory and Practice

BY CARL FLESCH

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"Fingering represents a bridge, linking the personal taste of the performer with the intentions of the composer," states Carl Flesch in his introduction to this book. With this as his definition, he probes deeply into fingering theory and practice, expanding upon principles he established in his earlier monumental study, *The Art* of Violin Playing. Flesch (1873-1944), who was not only an outstanding violinist, but one of the great violin teachers of all time, discusses the manifold elements that determine a performer's choice of fingering for a particular piece: tone color and contrast; contrapuntal and harmonic voice-leading and clarity; rhythmic pattern, incision, and percussiveness; right-hand convenience and accent; and the peculiarities of individual instruments. He organizes a wealth of information into four sections: fingering in the individual positions; fingering in the process of shifting positions; fingering for two or more voices (double stops and chords); and fingering as a means of expression. Flesch's bold ideas will stimulate the artist, teacher, and student; the violinist will find this an eminently practical guide. Indeed, its nearly 2,000 examples selected from the entire repertoire of solo and chamber music make it a virtual "dictionary" of fingering problems. 1,753 musical examples. Indexes. vii + 389pp. Clothbound \$15.00 73/4 x 11.



### PAINTING MATERIALS: A Short Encyclopaedia

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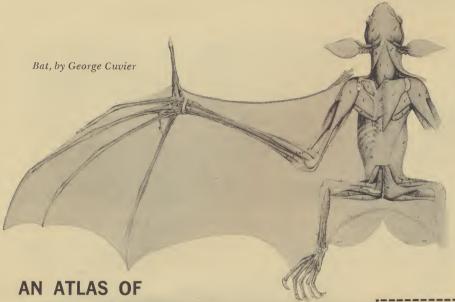
This book has long been recognized as the most thorough, best organized encyclopaedia of painting materials ever published. It is divided into five sections: Mediums, Adhesives, and Film Substances (amber, beeswax, casein, dragon's blood, egg tempera, paraffin, lacquer, gum arabic, water glass, etc.); Pigments and Inert Materials (over 100 entriés from alizarin to zinnober green); Solvents, Diluents, and Detergents (acetone, ammonia, carbon tetrachloride, soap, water, etc.); Supports (academy board, various woods, esparto grass, gesso, glass, leather, plaster, silk, etc.); and Tools and Equipment (atomizer, beaker, dipper, grinding slab, inkpot, manikin, palette knife, pantograph, stretcher, etc.). Under each of these headings, coverage is exhaustive. For instance, an 11-page article on oils and fats describes their chemical make-up, reactions on exposure to air, history in painting, processes used for refinement and abstraction, proper ratio when mixed with pigment, and comparative tendency to yellow. Much of the book's vast store of information is difficult to locate elsewhere. Unabridged reprint of 1942 edition. Revised Table of Physical Properties of Pigments. Glossary. 34 figures.  $x + 333pp. 5\frac{3}{8} \times 8\frac{1}{2}$ . Paperbound \$2.00

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ANIMAL ANATOMY FOR ARTISTS

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In this outstanding anatomy text, now in paperback for the first time, 288 remarkably lifelike drawings of animals furnish artists and students with an easy-to-follow method of instruction in the drawing of horses, dogs, lions, cows, bulls, stags, roes, and goats. So detailed and so accurate are these drawings that this book has long been a classic work of its kind. The animals are shown in three ways: external full views and dozens of details (paws, head, eyes, legs, etc.); beneath-the-skin drawings of musculature and of the position and insertions of each muscle; and skeleton drawings of the bone structures that support and determine surface contours and configurations. Twenty-five extra plates from long-unavailable anatomy studies have been newly added to this edition. These provide anatomical drawings of the monkey, the bat, the flying squirrel, the rat kangaroo, the seal, and the hare. "Highly recommended as one of the very few books on the subject worthy of being used as an authoritative guide," Design. 99 full-page plates. Annotated bibliography. viii + 151pp. 93/8 x 121/4.

### LETTERS ON THE SHORT STORY, THE DRAMA, AND OTHER LITERARY TOPICS

BY ANTON CHEKHOV

SELECTED AND EDITED BY LOUIS S. FRIEDLAND
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"The artist should be, not the judge of his characters and their conversations, but only an unbiased witness . . . able to distinguish between important and unimportant statements . . . able to illuminate the characters and speak their language." This statement, taken from one of the 470 letters in this book, reveals Anton Chekhov's attitude towards his writing. Written without thought of publication to his friends and relatives, contemporary critics and other writers, these letters give us an intimate portrait of Chekhov that we can get nowhere else. He expresses his thoughts on his own writing, works by Russian and non-Russian authors, the short story, the play, the theatre, theatre audiences, critics, his literary career, literature in general, children's books, women, happiness, and a variety of other topics. For students of literature and the drama, this book is a virtual goldmine of helpful advice and instruction. Containing the deeply personal reflections of one of Russia's greatest writers, these letters make up a fascinating documentary that should hold the rapt attention of general readers as well as of students in the field. Indexes. xii + 346pp. 53/8 x 81/2. Paperbound \$2.00

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Most books on acoustics have little obvious connection with the art of music, stressing instead the mathematical and physical concepts involved. This important exception, by one of England's leading acousticians, was written with the musician and music lover in mind, and is perhaps the only book now available that covers the subject entirely in terms the musician can understand. It deals with the three major areas of the subject: the branch of physics called sound, the science of hearing, and the physical basis of music. Physical concepts (sound, amplitude, pitch, frequency, speed and transmission of sound, diffraction and reflection, beats, resonance, etc.) are presented as simply as possible. The author draws heavily upon everyday experience to illustrate his discussions of the tone production of various instruments, the objective conditions of musical expression, the effect of the concert hall upon performance, overtones, the Doppler effect, acoustic spectra, the reproduction of music, the nature of musical scales, the role of the ear in musical perception, the voice, and similar topics. 46 study questions and answers. Bibliography. Index. 5 figures. 94pp. 53/8 x 81/2. Paperbound \$1.00



The boy came to thank her



Both thought they could go



They have thought of it

### VISIBLE SPEECH

BY RALPH K. POTTER, GEORGE A. KOPP, AND HARRIET GREEN KOPP CLOTHBOUND \$12.50

Summarizing years of research at Bell Telephone Laboratories, this pioneering work offers a detailed analysis of speech patterns obtained by means of a sound spectrograph—an instrument that records considerable data that the human ear cannot perceive or analyze. First, the authors describe the historical and mechanical elements in their work and the various modulatory phenomena imaged by their equipment (considering both individual and combined sounds). The heart of the book is a very detailed analysis (broken down into lesson units) of the visible patterns of American speech, with careful explanations of each class of phonetic elements. Following this, the reader learns to read spectrograms as easily as the printed word. Next, the authors discuss practical applications: instruction of the deaf, speech correction, phonetic research, problems of foreign language, and vocal music. All of this data is fully illustrated with more than 600 clear spectrograms. Students and teachers will find this an inexhaustible collection of data on applied phonetics, while instructors in various aspects of remedial speech will learn much that can improve their techniques. Unabridged, unaltered reprint of 1947 edition. Bibliography. Index. 138 figures. 25 charts. 15 handwriting specimens. xiv + 439pp.  $6\frac{1}{2}$  x  $9\frac{1}{4}$ . Clothbound \$12.50

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BY ALEXANDER DA R. PRISTA

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This is the first Portuguese grammar designed specifically for adults with limited learning time whose object is simple, everyday communication. Constantly drawing comparisons with English construction, it presents in logical order and in the clearest possible way all the important points of Portuguese grammar: word order, forming questions, nouns and articles, adjectives and adverbs, possessives, demonstrative adjectives and pronouns, forming negatives, personal pronouns, conjunctions and prepositions, conjugating verbs in the major tenses, prepositions and infinitives, and so on. All grammatical rules are illustrated with phrases and sentences that you can incorporate directly into your working vocabulary, and hints are sprinkled generously throughout, showing you how to replace difficult constructions with simpler ones. This is no simplified study, but rather a selected grammar for adult use that points out many timesaving short cuts, which you can use either alone as an introduction or refresher course in Portuguese grammar, or as a supplement to a phrase book or record course. It will serve you in your travels to both Portugal and Brazil, since differences in vocabulary and accenting in the two countries are pointed out. 4 Appendices. Glossary of grammatical terms. Index. xi + 114pp. 5% x 8.

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Self-portrait, A. Toney.

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As students of painting soon discover, there is no miracle short cut to becoming an artist. This remarkable book by a well-known contemporary artist and gifted teacher (at the New School, New York) offers no short cuts, but instead supplies meaningful suggestions for ways to develop ideas, to recognize when a picture is completed, to explore your own memory and personal experiences for inspiration for your creative endeavors. The book ranges over the whole of art-from the purely theoretical to the purely practical. Here vou will learn about different artistic theories (romanticism, classicism, naturalism, and realism); about the artist's materials (brushes, paints, canvases, etc.); and about the language of visual discovery (pattern, color, balance, texture, and form). But most important, you will learn to use your technical skills to express your ideas. Methods and concepts described in teacher-Toney's text are demonstrated in artist-Toney's canvases. Over 110 of his paintings, diagrams, and sketches are included-some paintings in various stages towards completion. These illustrations (4 of them in color) not only clarify the book's ideas and suggestions, but make it a handsome browsing book for art lovers. 114 black and white plates. 4 color plates. Index. ix + 202pp. 93/8 x 111/4. Paperbound \$3.00

### HOW WE GOT OUR FLOWERS

BY A. W. ANDERSON

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The flower we see growing by the roadside, in a quiet dooryard, or in a well-tended garden-is it a native plant, or did it originate in a remote, wild home on the other side of the globe? Even the best gardeners are often unable to answer this question. Yet the search for the origins of plants is a fascinating study, involving a colorful cast of characters, high adventure, and some of the better-known events of history. The discovery, travels, and development of carnations, roses, daisies, lilacs, tulips, pansies, violets, daffodils, saffron, fuchsia, orchids, and many other plants are explored in this book. Anderson relates many amusing and often hair-raising tales: about botanists on expeditions in savage lands, about the search for "lost" varieties, about the fortunes paid for bulbs and seedlings, about the wiles and duplicity of avid gardeners, and about the long, slow process of breeding imported varieties. In addition, he describes the life and work of great botanists and collectors. Compiled with the greatest accuracy from widely scattered sources, this book is an excellent reference work for folklorists and students of the curious bypaths of history. Any flower lover will enjoy it immensely. Formerly titled The Coming of the Flowers. New Index. 55 illustrations. 283pp. 53/8 x 81/2. Paperbound \$1.75

# SHAKESPEARE FROM BETTERTON TO IRVING

BY GEORGE C. D. ODELL

SET, \$5.00

Anyone who is interested in theatre history will enjoy this lively, well-written history of Shakespearean productions on the London stage from the Restoration to the turn of the 20th century. A standard reference work in the field almost from the day it was issued some 45 years ago, Odell's fascinating book chronicles the story of the changes in the plays themselves (cuts, deletions and additions of characters, rewritten endings, doctored verses, etc.) as well as the manner of staging Shakespeare (developments in scenery, lighting, machinery, costumes, pageantry, song, dance, etc.). Quotations from hundreds of contemporary sources: Pepys' diary, Addison's Spectator, the Annual Register, Boaden's Life of Kemble; diaries, letters, personal accounts by such figures as Macready, Ellen Terry, Phelps, Squire Bancroft, Henry Irving, etc.; playbills, acting scripts, magazine and newspaper articles, and critical reviews greatly enrich this account, as do many illustrations of scenes from various productions, portraits of leading theatre personalities, stage designs, playbills, interiors and exteriors of theatres, etc. Index. 100 illustrations. Total of xxxiii + 955pp. of text. 5\% x 81/2.

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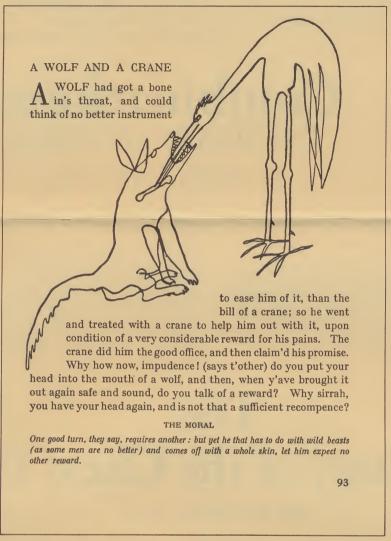
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Part biography, part criticism, and part analysis, this fascinating study of one of music's great geniuses is above all an authoritative commentary on the entire corpus of Debussy's work for piano solo. By a distinguished pianist, particularly noted for his performance of French music, the book is written with special insights for the performer. Yet it is also an invaluable text for listeners who would like to better understand Debussy's musical style-a work made all the more fascinating by occasional personal touches reflecting the author's relationship with Debussy as a friend and pupil. The opening section offers a general discussion of Debussy's life and work, a brief biographical sketch, and brief discussions of Debussy's place in relation to Romanticism and Impressionism, his use of classical forms, tonality and modality, melody, counterpoint, etc. At the heart of the book is a detailed, chronological examination of Debussy's 70-odd piano compositions: the Arabesques, the Suite Bergamasque, the Estampes, Îmages, Children's Corner, Préludes, and Etudes. An understanding of the technical aspects of music is helpful, but there remains much of importance and general interest in the literary and non-musical references generously sprinkled throughout the text. Unabridged, corrected (1950) edition. xvi + Paperbound \$1.75 234pp. 5\% x 8\\\2.

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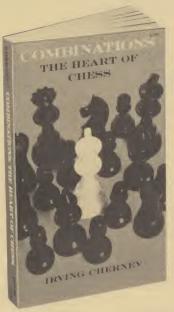
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History of English Literature "the best that we have." Calder's art needs no special introduction: his widely displayed "mobiles" and "stabiles" have won him international popularity. The drawings Calder executed for this book rank among his most imaginative creations.

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"An excellent text for study by beginner or expert," Library Journal. Unabridged, slightly corrected republication of 1960 edition. Index. 356 diagrams. ix + 245pp.  $5\frac{3}{8}$  x  $8\frac{1}{2}$ . Paperbound \$1.85

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BY REUBEN FINE

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ust what is the special ability that sets great chess players apart from other men? Long a topic of intense speculation, this is the question that is searchingly explored and answered in this remarkable book. Whereas other studies in this area have been handicapped because they were done either by psychologists (like Binet) who had no contact with first-rank chess players or by chess players who were not first-rate psychologists, this book combines the special insights of both disciplines. Dr. Reuben Fine is one of the great chess players of this century (he has played on equal terms with Botvinnik, Reshevsky,

Smyslov, etc.) and he is also a qualified psychoanalyst.

Dr. Fine calls upon both his own understanding of chess processes and his unrivalled contacts in the chess world in his attempt to analyze chess and its appeals - particularly to male players rather than females - and to isolate its inner meaning and categorize and understand the special combination of characteristics that make up a chess champion. Some of the great players studied here (Lasker, Capablanca, Botvinnik) Dr. Fine has known both in terms of chess and as personalities. He discusses the great players of the past (Staunton, Anderssen, Morphy) as their personalities are revealed in books, articles, and legends that have grown up about them. The result is not a simplistic answer to the question, but an astonishing synthesis that describes what these men did and did not have in common.

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Brilliantly written, sometimes controversial, always stimulating, Dr.

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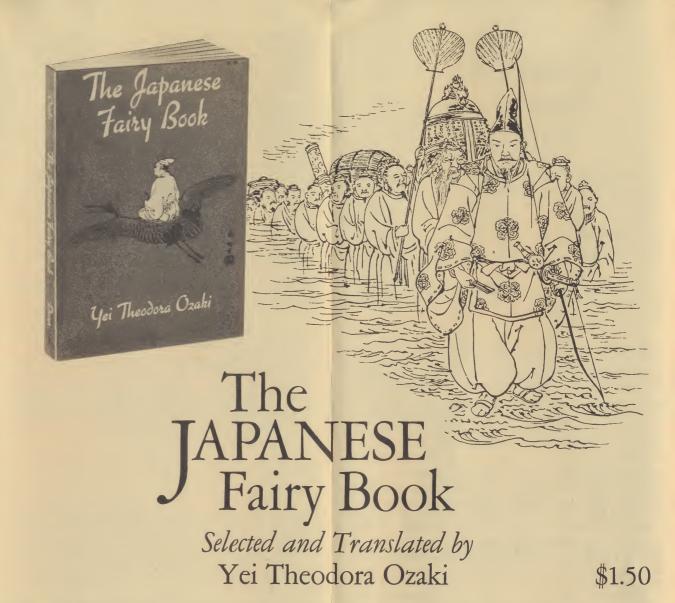
# Another Brownie Book

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As a boy in his native Granby, Canada, Palmer Cox (1840-1924) heard the folktales of Scottish immigrants. These legends later inspired a delightful imaginary folk and a series of children's classics — the stories of the Brownie bands who emerge from their forest haunts at twilight to spend the whole night through in games, pranks and adventures, or in using their diminutive hands to aid the unfortunate.

In this best of the sequels to the original *The Brownies: Their Book*, the Brownies are back in Cox's charming verse and in his lively, spritely drawings. The little creatures get into any number of scrapes in these pages. They take rides on a locomotive, a canal barge, and the back of a whale; they have a horse race and a yacht race; and they almost get swept over Niagara Falls! Their sports and activities include fishing, archery, planting a garden, pulling candy, and dressing up for a fancy ball! Little wonder that these engaging sprites have been the favorites of children for 75 years! 24 tales. 285 illustrations. xi + 144pp. 6% x 9¼.

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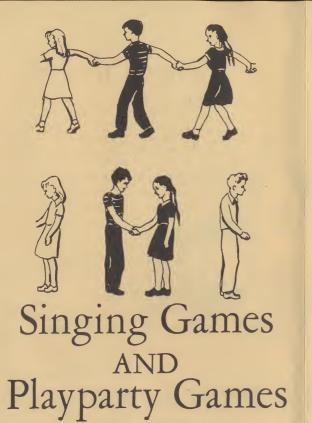


Although these traditional stories come from a country which geographically and culturally is distant from us, readers will find many of the same events, elements and character-types that populate folk tales of the West. For example in one story, a fearless warrior meets a dragon king and slays a monstrous centipede; in another, there is a hard-hearted step-mother; in another, we visit a marble palace on the floor of the ocean; and in still another, we learn how the jelly fish got his form. There are wizards, ogres, goblins, talking animals, and a magic, never-empty bag of rice. But the imagination shown here is distinctly Eastern, and so is the magical mood cap-

tured in the translations.

Beautifully illustrated by Kakuzo Fujiyama, some of the tales are: "My Lord Bag of Rice," "The Bamboo-Cutter and the Moon-Child," "The Story of the Man Who Did Not Wish to Die," "The White Hare and the Crocodiles," "The Ogre of Rashomon," "How an Old Man Lost His Wen," and "The Stones of Five Colours and the Empress Jokwa." For over 50 years, this has been the favorite collection of Japanese fairy tales for children. 22 stories. 4 plates. 62 illustrations. xii + 296pp. 5% x 8½.

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Compiled by
Richard Chase

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Singing games are as natural to young and teen-age children as hop-scotch and hide-and-seek. A tradition which children have long preserved, some of the games described in this book can be followed back through English history as far as can be traced. Universally popular, they are played in the same basic way in New York City and the hollows of the Southern Mountains.

Richard Chase, one of America's foremost storytellers and practicing folklorists, has collected in this book 18 folk games and singing games which he learned from American children. The book provides words and tunes (with full piano accompaniments for six — the author believes it's better that the children not rely on accompaniment), and clear instructions on the steps to be performed, made still clearer by Joshua Tilford's diagrams and drawings. Some of the games are: "Wind Up the Apple Tree," "Hullabaloo," "Turn the Glasses Over," "In and Out the Windows," "Three Dukes," and "O Belinda." While none of the games is extremely difficult, some are especially simple and will serve as good introductions. Formerly titled Hullabaloo and Other Singing Folk Games. vi + 57pp. 6½ x 9¼.

"As vital and valuable a collection today as when it was first published . . . and still the first collection of fairy tales that children reach for eagerly in a library," Margaret Sherwood Libby, in Book Week, Washington Post and New York Herald Tribune.



# ANDREW LANG'S Fairy Tale Collections

Andrew Lang — essayist, fiction writer, critic and perhaps the foremost folklorist in the British Isles during the early 20th century — assembled a rich collection of fairy tales in his 12-volume series *The Fairy Tale Books of Many Colors*. For Lang, the popular literature of all countries was equally. exciting. Therefore, his collections contain not only a vast selection of European and Slavic tales from Grimm, Perrault, Madame D'Aulnoy, Basile and others, but also tales from primitive Australia, stories from The Arabian Nights and Greek mythology, legends from Central America, and animal stories from Negro Africa. Lang's carefully chosen translations of these tales are generally considered to be the best in English.

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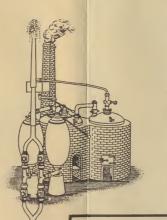
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Left to right: A model of Leibnitz's calculating machine; Sir Henry Bessemer (1813-1898); a vacuum mine-pump (1699); constructing a stone bridge and wooden walls during the siege of a city by Charlemagne (courtesy, Oxford U. Press)

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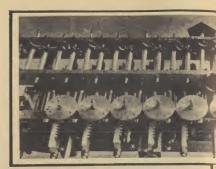
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Under these broad headings, you will find a close analysis of the way in which a violin produces sound; descriptions of carbon, crystal, dynamic, velocity, and unidirectional microphones; a comparison of the relative absorbency of 22 acoustic materials, building materials, and objects; a description of how music can be produced by a digital computer; and much, much more. Conductors will find suggestions on positioning their orchestras; performers will understand the dynamics of their instruments; recording engineers and acousticians will discover a remarkably comprehensive reference work; and music teachers, students, physicists, and enthusiasts in general will find easy access to a vast wealth of information.

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2nd (1967) edition. New Preface by the author. Bibliography. Index. 379 figures. 36 tables. xi + 460pp.  $5\frac{3}{8} \times 8\frac{1}{2}$ .

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Top, left to right: Jean Etienne Montucla, Gottfried Wilhelm Leibnitz, James Joseph Sylvester. Bottom: Leonhard Euler.

### A CONCISE HISTORY OF MATHEMATICS

by Dirk J. Struik

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This compact study, first published in 1948, and now in its third, revised edition, is the best brief history of mathematics. In it, Dirk Struik covers all the main trends and important figures in the development of mathematics, from the dawn of recorded history to modern times.

It has been specially prepared for the reader who wishes a clear picture of the development of mathematics, but does not have the time or inclination to work through one of the longer histories. Yet despite its brevity it neither oversimplifies nor omits important people. It has attained its high reputation by giving the reader exactly what he needs.

Beginning with the ancient Near East, the author traces the ideas and techniques developed in Egypt, Babylonia, China, and Arabia, looking into such ancient manuscripts as the Egyptian Papyrus Rhind, the Ten Classics of China, and the Siddhantas of India. He then considers Greek and Roman developments from their beginnings in Ionian rationalism to the fall of Constantinople, Medieval European ideas and Renaissance trends. In addition, he analyzes 17th and 18th century contributions,

and concludes with an exposition of 19th century concepts. Moreover, every important figure in mathematical history is dealt with — Euclid, Archimedes, Diophantus, Omar Khayyam, Boethius, Fermat, Pascal, Newton, Fourier, Cantor, Riemann, and many others.

Revised, corrected and amended throughout, this third (1967) edition contains a much greater wealth of material on the contributions of China to mathematical thought than ever before. The unusually full bibliographical references at the chapter ends have also been expanded.

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Here is clearly reasoned, well-written coverage of all the standard traditional material: terms, propositions, inference, the syllogism, reduction, categories, and various forms of syllogistic arguments and fallacies. Under these general headings, the author considers topics such as truth and validity, natural logic, thought and speech, definition and description, Aristotle's induction, Bacon's criticism, Mill's inductive logic, etc. A final chapter introduces the reader to symbolic logic.

The presentation of this material is remarkably thorough. Each topic is developed both topically and historically, so that the student is offered a much broader base of knowledge than is usual in elementary texts. In addition, numerous review exercises are appended to each chapter.

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by F. Winterbottom

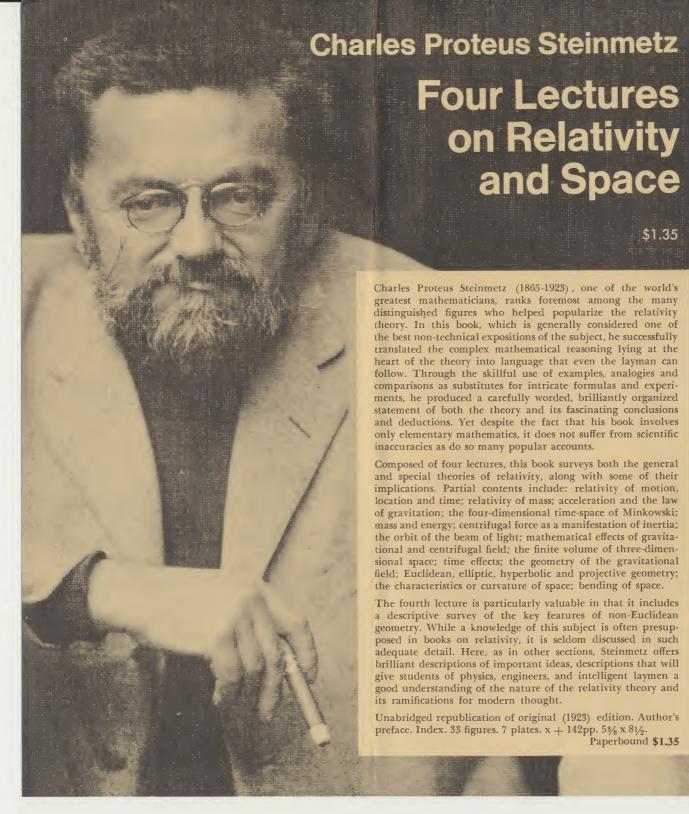
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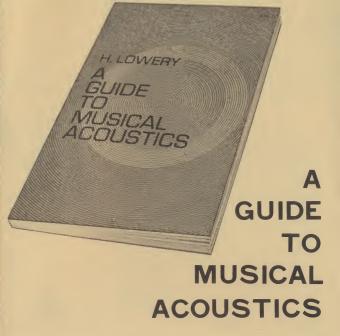
Can you explain on a child's level, yet without losing precision and completeness, the scientific principles involved in the world around us: winds and the convection cycle, a real thermostat (as opposed to an ideal one), air pressure and its measurement, the operation of baking powder, the nature of a soap, operation of hip joints, connection between oxidation and burning? It is not always easy to explain such matters to a child.

In this new, up-to-date member of the "Teach Yourself" series Mr. F. Winterbottom, an important British educator, explains basic topics in physics, chemistry and biology: phenomena of heat, the solid state, air and water pressure, light, solubility, acids and alkalis, plant physiology, animal structure, etc. For scores of topics within each major area Mr. Winterbottom gives completely nonmathematical verbal statements of basic knowledge and results, all tied in with aspects of daily life.

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Top, left to right: Jean Etienne Montucla, Gottfried Wilhelm Leibnitz, James Joseph Sylvester. Bottom: Leonhard Euler.

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by Dirk J. Struik

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and concludes with an exposition of 19th century concepts. Moreover, every important figure in mathematical history is dealt with — Euclid, Archimedes, Diophantus, Omar Khayyam, Boethius, Fermat, Pascal, Newton, Fourier, Cantor, Riemann, and many others.

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Consulting Engineer, General Electric Company

It is the author's thesis that practically all types of a-c and d-c rotating electric mahines used by the power industry can be described with a single systematic theory, demonstrated in terms of equivalent circuits. To illustrate this idea, he developed a prototype equivalent circuit from which the equivalent circuits of each type of real machine can be found by means of a transformation.

Following the book's prologue, philosophy of equivalent circuits, the prototype is discussed at a standstill, in motion at a constant speed, and in the transient regime. It is then used to describe unbalanced induction machines (including the capacitor and the shaded-pole motors with space harmonics, polyphase machines, induction motors with unbalanced stator loads, etc.), salient-pole synchronous machines (excited in the field only, on the armature only, on both field and armature; constant flux-linkage networks; polyphase synchronous machines; etc.), a-c commutator machines (frequency converter, ohmic-drop exciter, shunt polyphase commutator motor, the intermediary machine, the Scherbius machine, the Schrage motor, the repulsion motor, etc.), and several interconnected machines running at the same or different speeds. Because of their importance, the synchronous machines and the polyphase induction motor are examined under greater variety and more detailed operating conditions than the other types.

Other chapters discuss the capacity of the prototype to deal with space harmonics, time harmonics, and sudden short circuits and load variations. An epilogue discusses the electrodynamics of equivalent circuits (the dynamical equations of rotating electric machinery, reduction of those equations to equivalent circuits), and the appendices include material on the reestablishment of the transient dynamical equations from the equivalent circuits, design constants of the shaded-pole motor, and visualizable and non-visualizable physical vectors.

Unlike the author's companion volume, *Tensors for Circuits* (Dover, \$2.00), which employs a purely mathematical reasoning for the study of the same rotating machines, the reasoning throughout this text is physical; mathematics is avoided.

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# ELECTRIC AND MAGNETIC FIELDS

by Stephen S. Attwood,

\$3.00

Late Professor of Electrical Engineering, University of Michigan

Based on an undergraduate course given for many years by the author, this text provides thorough grounding in the terminology, fundamental concepts, and methods of solution of problems arising in the study of electric and magnetic fields, thus bridging the wide gap between the statement of a physical principle and its utilization.

The text is in four sections: first, there is a discussion of the electric field wherein are developed the field concepts of potential, field intensity, flux density, etc.; second, a discussion of the magnetic field wherein field formulas are developed under the assumption of constant permeability and where current, rather than magnetic poles, is emphasized as the fundamental source of the magnetic effect; third, a detailed treatment of the ferromagnetic field, extremely valuable for its discussion of the magnetization curves of a wide range of materials and for its elementary coverage of the basic physical relations determining para-, dia-, and ferromagnetism; and, finally, an elementary treatment of combined electric and magnetic fields, dealing with the interactions between electric and magnetic fields that simultaneously occupy the same space. This is covered in such a way as to enable students to acquire a solid basis for later, more advanced studies in the theory of propagation of electromagnetic waves.

Among the important features of the text are demonstrations of how to calculate fields arising from a variety of sources, an unusually thorough coverage of ferromagnetic materials, and the use of the methods of "field mapping" which had only just come into prominence in the few years prior to the original publication of this revised third edition.

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### by W. Ledermann

Gauss's Theorem, change of variables, Stokes's Theorem) are introduced in turn, and methods of evaluating them are presented in detail.

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In addition, such topics as the summation of slowly-convergent series, Prony's method of interpolation by exponentials, the Rayleigh-Ritz method for minimum problems, etc. are covered in a final chapter of problems. 89 exercises (with numerical answers) and a number of fully-worked examples put the theory to work.

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by Forman S. Acton,

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Associate Professor of Electrical Engineering, Princeton University

The successful analysis of statistical data demands a careful choice of the underlying mathematical model. Historically, one model has been used almost exclusively: the independent variable x is assumed exact, and the dependent variable y has all the error. Where this model fits, it gives simple, useful formulae. But where it doesn't fit, it deludes to the point of causing a lack of faith in statistical methods.

In this unique book, the author describes alternative techniques of statistical analysis. In addition to the above-mentioned classical model, which he covers in detail, he explores models where there are several values of y for each known x, bivariate-normal models, models where x and y are both in error, non-generate models, and models of more than one line. Within his descriptions, Professor Acton discusses confidence limits, regression lines, maximum-like-lihood estimation, degeneracy along a line, and other important points.

Additional chapters cover orthogonal polynomials, the use of transformations, the rejection of unwanted data, and cumulative data.

### Applications to actual experimental data.

The book is intended as a practical tool for designers and physical scientists. The author, therefore, presents techniques that he has found useful in his work and demonstrates each in the context of an actual experiment. Many of these techniques are computational short-cuts not usually found in statistics texts. Professor Acton also stresses the philosophy underlying a method to prevent readers from getting lost in manipulative detail. Though most of the book deals with data which seem to, or can be made to, fit a straight line, some attention is paid to curvilinear data and fitting with the aid of polynomials.

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# SOME PROBLEMS IN GEODYNAMICS

by A. E. H. Love

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The book opens with an exposition of the problem of stress in the earth due to the irregular distribution of land and water, and continues with a detailed study of tides, including a summary of previous work in the field, and of motion and vibrations of the earth's mass. Specifically, this section contains chapters on the problems of the isostatic support of the continents (which introduces the hypothesis of isostasy among other points), the problem of the isostatic support of the mountains, general theory of earth tides (Kelvin's investigation, variation of latitude, Hecker's observations, etc.), effect of inertia on earth tides, and the effect of the spheroidal figure of the earth on earth tides.

Chapters VII through X are devoted to the dynamics of a gravitating compressible body of planetary dimensions—general theory (initial stress, equations of vibratory motion, purely radial displacement, etc.), effect of compressibility on earth tides, the problem of gravitational instability, and vibrations of a gravitating compressible planet (solution of the equations of vibratory motion for vibrations of slow types, frequency of free vibrations of tidal type, etc.).

The final chapter, theory of the propagation of seismic waves, investigates seismic waves generated by man, by nature, and by celestial pull; methods of investigation; Lamb's theory; Rayleighwaves; dispersion; and other sub-topics.

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Dr. Murnaghan introduces his book with a chapter on vectors and matrices wherein the elements of matrix theory necessary to his treatment are introduced. With this background established, he proceeds to investigate the specificity of strain and the relation between strain and stress, covering the behavior of strain matrices under transformations of the initial and final coordinate reference frames, the invariants of the strain matrix, the conditions of equilibrium, the virtual work when the stress is hydrostatic, the boundary conditions, etc. A short section (which can be omitted) discusses the compatability relations between elements of the strain matrix and their derivatives, employing tensor analysis.

Subsequently, Dr. Murnaghan applies matrix algebra to isotropic and non-isotropic elastic media, submitting these media to simple shear, and simple tension (the linear theory and the second-order approximation). He also considers the compression of a spherical shell and of a circular tube, and the torsion of a circular cylinder.

The treatment throughout the book is mathematical but elementary for its material, with full, clear explanations and the use of dozens of practice problems. Written by a man well-known for his contributions to applied mathematics, this is a specialized but indispensable book for engineers whose work deals with deformations produced by high pressure strains and stresses and which must be computed.

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by W. A. Günther

translated for Dover by David Antin

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### Full coverage of the basic principles.

The introduction covers the physical bases of general electronics, answering such questions as how electrons can be influenced and how they are related to static electricity, and describing conductors, semiconductors and insulators; induction phenomena; and magnetism

There follow separate chapters on older types of devices: classical intensity-modulated tubes (diodes and photoelectric cells; tubes with grids), the development from glow-discharge tubes to the thyratron, cathode-ray and other special high-vacuum tubes, and velocity-

modulated tubes. Each of these chapters is rich in historical background and practical material as well as essential physics.

### Completely new chapter on molecular amplifier electronics!

The remainder of the book—nearly half the text—is an excellent physical exposition of the electronics of the latest developments: transistors and molecular amplifiers. Extensively revised by the author for this edition and enlarged, this section contains a lot of material that is very much in the forefront of modern research and development: germanium and semiconductor diodes, transistors, plasma cells, piezoelectric transducers, the MHD generator, atomic clocks, microwave spectroscopy, solid state masers, the laser, stabilizer cells, paramagnetism, and so on.

While the book is especially valuable to scientists who use electronic devices and to students, technicians and others entering the field, readers with little mathematical training will be able to follow the text easily. The 240 figures are a further aid to comprehension.

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As in the other books in this series, mathematical rigour or detailed algebraic derivations are not called for, and theory is discussed only in such detail as is needed to show the basic physical principles.

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by R. G. Scurlock

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Aimed at the second or third undergraduate year in science and engineering, this book provides a concise account of some of the more important properties of the solid state. A strict mathematical approach is avoided; discussion is limited to qualitative explanations.

After introducing the temperature spectrum (mass, length, time and temperature; production and measurement of low temperatures; etc.), the various types of specific heat phenomena are described. A qualitative treatment of lattice vibrations and electrons in metals is made at some length to help explain lattice and electronic specific heats; an outline of photon and electron heat conduction is presented; and a discussion of electrical conduction in metals is included. The remaining chapters are devoted to transport phenomena, superconductivity (Types I and II superconductors, high-field superconductors and super-magnets, super conducting energy gap), magnetic phenomena, and the mechanical (tensile, creep and fatigue) properties of metals at low temperatures in terms of dislocation theory.

A Dover import, published 1966. Bibliography. Index. 35 figures. 7 tables. xvii + 125pp. 4\% x 71\%. Paperbound \$1.35

# SOME THEORY OF SAMPLING

### by W. Edwards Deming

\$3.50

No other development in the burgeoning field of data-collecting has been so revolutionary in its effects as statistical sampling. The purpose of this book is to make sampling techniques understandable to mathematicians and statisticians and useable to both physical and social scientists who are finding statistical work increasingly important. Further, the author hopes to stimulate in students the desire for originality in dealing with problems of sampling.

The opening chapters are virtually unique in their presentation of practical problems that arise in the undertaking of statistical surveys. The chapters which follow, on the planning of surveys, the various errors (procedural biases, errors having their origins in sampling, unavoidable imperfections, etc.), moments and expected values, some variances in random sampling (principles of procedure, general theorems on variance, propagation of error), multistage sampling, ratio-estimates and choice of sampling unit, allocation in stratified sampling, distinction between enumerative and analytic studies, control of the risks in acceptance sampling, the sample as a basis for action (estimates and error bands, inverse probability), estimation of the precision of a sample, and applications (inventories, a population sample for Greece), though they presuppose a first course in basic statistical methods, are fully accessible even to readers with severely limited mathematical training.

The last section of the book, incorporating chapters on detailed study of some binomial and related distributions, the gamma and beta functions, distribution of the variance in samples from a normal universe, tests for hypotheses in normal theory, and the distribution of the external and internal variances, is invaluable to sophisticated users and to graduates in mathematical statistics who, when taking up practice, discover yawning gaps between that practice and theory.

Illustrated throughout with dozens of actual large-scale surveys, the text is a rich and useful coverage of its important material. Well over 200 exercises, many with full solutions and most with hints to guide the self-learning reader, are also included to illustrate basic points of sampling theory. Only college algebra is assumed throughout.

Corrected, unabridged republication. Bibliographies. 90 figures. 61 tables. xix + 602pp. 5% x 81%. Paperbound \$3.50

# MECHANICS OF MATERIALS

by Alvin Sloane,

\$2.75

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